The Medical Library Association: promoting new roles for health information professionals

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As the Medical Library Association (MLA) enters its second century, its role in providing leadership and focus for the education of health information professionals in a changing environment will be critical. MLA members face dramatic changes in the health care environment as well as significant opportunities and must position themselves to thrive in the new environment. This paper examines new roles for health information professionals, new approaches to education and training, and related issues of credentialing, certification, and licensure.

The Medical Library Association (MLA) marked its first one hundred years in 1998 and proudly celebrated the advances in the health information profession since 1898. Dramatic advances in research, health care, and information sciences have also occurred in the 100 years marking MLA's first century. Through a century of change, MLA has remained steadfast in its core values and belief that quality information is essential for the advancement of science and improved health. This belief has recently been stated as a vision statement for the association:

Professionals Providing Quality Information for Improved Health. For more than a century, the Medical Library Association (MLA), through its members and programs, has served society by providing quality information for better health care, the education of health professionals, the conduct of research, and the public's understanding of health.

Although the core values and vision remain unchanged, MLA is now facing some of its greatest threats and potentially most rewarding opportunities. A central theme in both these threats and opportunities is the changing profession and the need for health sciences librarians to build on the past and reengineer themselves to meet the information-intensive demands of health care of the future. For the profession to remain vital and essential, a number of issues must be addressed: Who are the clients and what kinds of skills are needed to serve them? What are the potential new roles afforded by acquisition of these new skills? What credential is needed to garner acceptance as full members of the health care team? How can the association prepare its membership to meet these new challenges? This paper examines these issues and the implications they have for an association of health information professionals at the beginning of the twenty-first century.

* McGowan and Homan are currently members of the Board of Directors of the Medical Library Association (MLA). McGowan participated in the fall 2000 conference in Philadelphia on the ''informationist.'' Homan is immediate past president of MLA. The opinions stated are those of the authors and do not represent the official position of the Board of Directors of the Medical Library Association.

THE EXPANDING KNOWLEDGEBASE OF THE HEALTH SCIENCES

The knowledgebase of the life and health sciences is expanding dramatically as new knowledge is added in ever-greater quantities to the accumulated body of evidence. It is becoming clearer that there is a crisis in the ability of the health care system to transfer the accumulated knowledge to the point of care, where it would make a difference. The report of the Institute of Medicine (IOM), ''To Err Is Human: Building a Better Health System,'' pointed out the error-prone health care system in the United States. The report calls for a major overhaul of the nation's health system with a goal of 50% reduction in errors over the next five years [1]. Quality information will be one of the keys to changing the system and the IOM report, as well as reports by professional societies and accrediting agencies, recommends that the new systems must be knowledge and evidence based. This is good news for the health sciences library community and the association that supports them. Health sciences librarians will be a part of the solution and most likely in a variety of ways.

MLA's core vision statement, ''Quality Information for Improved Health,'' easily embraces traditional roles of acquiring, organizing, storing, retrieving, and disseminating quality information to health professionals and consumers. These skills and the education required to perform them will remain vital components of health sciences librarianship. MLA's vision also embraces more specialized skill sets that are not routinely available in hospital and academic medical libraries at the present, including clinical medical librarian and informationist roles. The ever-expanding knowledgebase of medicine and the trend in the health sciences toward more specialization in content areas will require new skills to educate end users and facilitate immediate information access at the point of decision making.

This symposium has focused on informationists and other forms of patient-centered librarianship in a clinical setting. It can be argued, however, that the new skills will provide librarians with the expertise to operate in any health care or life sciences research environment. For example, providing direct information intervention as part of a proteomics initiative, which results in a new genetic cure for a specific form of cancer, is as much patient related as providing access to the evidence at the point of care. Designing and building the knowledge-management infrastructure is as much a part of patient care as teaching clinicians how to access practice guidelines through these new tools. Creating access to quality-filtered and critically analyzed information through a Web portal designed for use by health care consumers is as patient focused as providing specifically relevant lay information to the public in consumer health libraries or patient information kiosks. Each of these new roles requires a unique set of skills, which are only now being recognized as essential by the profession.

THE NEW HEALTH INFORMATION PROFESSIONALS

With the focus on patients, the primary clients of new health sciences librarians are the members of the health care team and patients or health care consumers. Traditional skills of librarians, including reference interview skills and online retrieval skills, are those used most frequently in the health care setting. Informationists are today's reincarnation of clinical medical librarians, but with added assets. Training health care providers in information retrieval and quality filtering skills as the nucleus of a new health profession underscores the difference between informationists and clinical medical librarians. Informationists have come from a health care provider environment and from a recognized health profession. Health care providers have worked within the health care profession and understand the environmental pressures of time constraints, economics of practice, and life and death decision making. Health care providers who become informationists are inherently colleagues.

Medical librarians who have developed knowledge of clinical medicine, expertise in evidence-based medicine, and techniques of information retrieval have the primary skills required to become informationists. However, the ancillary content, which should be part of every clinical medical librarian's knowledgebase, includes the areas of health care economics, health care ethics, and medical sociology. With such a familiarity, clinical medical librarians of today would have a greater chance of qualifying as informationists.

This same knowledge should be a prerequisite for health care team status for a consumer health librarian. Identifying lay information needs is relatively easy. Acquiring appropriate information to fill those needs is harder. Serving as an ''infomediary'' between the health care consumer and the health care provider and supporting shared medical decision making requires an understanding of what information physicians value for dissemination to patients and the sociological issues around the patients' request and use of such information. Many excellent consumer health librarians understand not only the health care environment but also concepts of patient-centered psychology and sociology, ensuring that the information they provide does not result in a lack of compliance and poor health care outcomes.

Another role closely related to patient-centered librarianship is that of evidence educators. While currently garnering widespread acclaim, the concept of evidence-based medicine is not new. Sir William Osler,

a physician educator on the faculty of McGill University more than a century ago, integrated bibliographic instruction (e.g., how to find and interpret medical evidence) into his courses [2]. In a 1928 paper, Harvey Cushing challenged medical faculty, ''It is someone's business in every medical school to teach laboratory methods to the students but it is no one's particular business to teach them how to use medical literature . . . Short talks on the use of the library might well be made an obligatory sectional exercise for students'' [3].

Health sciences librarians have been trained to be experienced searchers, and many would argue that there is no more efficient and effective way health providers, and even health care consumers, can acquire quality information than through librarians. Regardless of the validity of this argument, reality dictates that with the advent of PubMed and the Web, both health care providers and health care consumers are doing their own information retrieval in greater and greater numbers. To move from information provider to effective evidence educator requires not only knowledge of the subject, but also grounding in adult learning theory and teaching techniques.

Scientists as clients present new challenges. The mapping of the human genome has created new areas of research, each demanding greater access to information. Genomics, proteomics, and a number of other emerging professions in bioscience are demanding the training of bioinformaticians to create and manage large data sets. Just as important are bioinformationists, health sciences librarians who can work with all of the special databases offered by the National Library of Medicine (NLM) and create customized search sequences to provide tailored access to both data and knowledge to support these researchers. A familiarity with both computational biology and genetic research is critical to becoming a bioinformationist.

Computers are essential tools of the health information profession but also offer opportunities for enhancing efficiency and effectiveness of customized information delivery. Health sciences librarians can be found in the roles of information architects, knowledge engineers, and decision-support specialists. While not apparently patient focused, librarians in these roles provide the infrastructure that enables information access in support of patient care. Information architects design and build the substructures for linking the information source to the users; knowledge engineers create the middleware to ensure that access to information is available when and where it is needed; and decision-support specialists analyze user needs and provide filters that enhance information available at the point of need. These new roles require a background in information systems and Web design, an ability to organize both human and information resources, and an understanding of the human-computer interface.

NEW APPROACHES TO EDUCATION AND TRAINING

Just as the medical doctor (M.D.) is the terminal degree for physicians, the master's of library science (M.L.S.) is the terminal degree for librarians. Both are professional degrees and imply that the knowledgebase and skill development required for the bestowing of the degrees will be sufficient for entry-level practice. There is also the implication in any profession that further ''on-the-job'' training, continuing education, or specialized coursework is necessary for optimum performance. For physicians, this is generally found in the internship and residency programs offered by academic medical centers with strict criteria for accreditation of the various programs. For librarians, no such comparable, post-graduate training exists, with the exception of the NLM associate and fellowship programs. Available mentors for first jobs are highly variable depending on location, size of institution, and commitment. For skill building, most librarians rely on on-the-job training and the significant formal continuing-education opportunities offered through MLA or, tangentially, the National Network of Libraries of Medicine, as well as the invisible college of mentoring opportunities offered through MLA.

For most of the past century, master's level coursework in library and information science was prescribed to fit a generalist level of library work. However, as the profession became more specialized, not only was specific and advanced coursework in health sciences librarianship desirable, but specific courses targeting specialized skills became important in the reengineered health sciences library environment. Unfortunately, most library schools responded to this work force demand by offering more electives rather than by extending the required coursework necessary for a specialization, something done by a few schools in the late 1960s and early 1970s but eventually phased out due to economic considerations.

Library school education must be the starting point for the new roles that information professionals must assume. Students need a firm foundation in knowledge-management skills; an understanding of the organization of knowledge; an ability to acquire, critically analyze, and disseminate pertinent information to meet client needs; and an appreciation for the principles of adult learning theory to foster a learning continuum. These concepts should form the basis for the professional degree and give a firm grounding in the art and science of librarianship.

Students wanting to become health sciences librarians need more training. They will serve a professional clientele with specialized needs. A formal second year

of both coursework and internship would enhance the health sciences information profession's ability to meet and exceed clients' specialized information needs. Achieving this will require a great deal of effort. Only a few library schools may opt to do this, but the rewards would be enormous, to the profession and to the individuals taking part in such training.

Health sciences librarianship is filled with M.L.S.-credentialed librarians who also need additional specialized training. MLA is first among equals in providing its membership with training opportunities to enhance skills and achieve new levels of professional competence. The MLA continuing education (CE) program offers courses at the basic level to ensure that recent graduates or those entering the profession from other venues have an opportunity to achieve core competencies in many significant areas. MLA's Academy of Health Information Professionals recognizes individuals, at several different levels, who have completed CE classes and have contributed to the profession in a variety of ways.

Beyond the basic CE courses, MLA continually seeks instructors to develop and offer classes in areas vital to professional growth. The association also solicits courses and instructors for topics that are timely and of current interest to its members. The symposia at the annual meetings are just one venue of this new and dynamic approach to promoting skill development for new roles for health sciences librarians.

Two new concepts have recently been introduced to promote retooling MLA members. A consumer health credential is being offered through the CE program, which requires completion of five continuing-education courses about consumer health information services. The certificate of completion validates the credential and enables members to demonstrate that they have achieved a professionally recognized level of competence in this new area. A technology credential program, designed along similar lines as the consumer health credential, is planned.

The second concept, which is in the developmental stage for MLA, involves partnering with universities to offer certificate programs with demonstrated competencies in key impact areas, such as technology, for the profession. A certificate program would be comparable to commercial training certificate programs, such as those offered by Microsoft, and would be delivered primarily through distance education. These types of programs have an immediate impact on the members and employers by tangibly demonstrating competence through credentials and certificates.

While promising to have a significant impact on the profession, credential and certificate programs still do not address all of the educational needs of health information professionals. Other models need to be explored and fostered in today's health care marketplace. One such model is the medical informatics librarian fellowship program supported by NLM through its medical informatics training grants. Designed for mid-career librarians, these individuals work closely with M.D. and Ph.D. medical informatics fellows as part of a training team. These programs have the potential not only for developing new and exciting skill sets but also fostering deeper levels of understanding among the medical informatics fellows as to what each can bring to project management.

Similar fellowship programs are available at a few other institutions, however standardized fellowship programs for health sciences librarians that provide focused training in one or more of the new professional roles could also be implemented. Formalized learning objectives, structured education and training opportunities, and evaluation would have to be developed for each individual program, but the result would be health information professionals with more skills and ready to meet the challenges of today's health information clients.

In addition to the well-documented clinical medical librarian programs and evidence-based medicine programs, there is a more recent ''proof of concept'' project underscoring the kind of new roles librarians are playing on the health care team. A project at Eskind Biomedical Library at Vanderbilt University has integrated librarians into the health care team; the program includes extensive training and orientation sessions preceding team placement [4–7]. This project and similar programs will be important for MLA and library schools to monitor and study as they represent on-the-job orientation and training as the entry point to a patient-centered role rather than post-master's fellowship or specialized second-year programs through library schools.

CREDENTIALING, CERTIFICATION, AND LICENSURE

Education for new roles and the establishment of baseline competencies is only half the battle. Health sciences librarians have been providing quality information in support of health care, education, and research for over a century with outstanding success. However, in only a few instances are librarians considered part of the health care team. The basic assumption of the informationist is predicated on training health care providers in knowledge management rather than using the clinical medical librarian model.

Perhaps the most frequent reason for the lack of acknowledgment of the value of the librarian in the clinical setting is the difference in academic credentials, specifically the M.D. versus the M.L.S. Most nurses do not have advanced degrees nor do physical therapists or respiratory therapists. Yet they are considered part of the health care team. All, like librarians, have professional degrees. All, like librarians, work with or for

patients. All, like librarians, perform duties to enhance the quality of care. All, except librarians, are licensed and have passed the requirements, including formal examinations, to become credentialed in their specialty area. Licensure grants rights and ensures a level of accountability, which is not yet part of health sciences librarianship.

Several decades ago, MLA certified medical librarians through a certification examination. Aimed chiefly at enhancing professional recognition in institutions, the program was marginally successful but did not translate into peer status for librarians as part of health care teams and was very costly to administer. This program was reengineered into the Academy of Health Information Professionals (AHIP). Rather than being a credentialing or certification program, the academy is a peer-recognition program with specific requirements for the various membership levels.

Credentialing and certification imply training, evaluation, and demonstrated competency. Health care providers are credentialed to perform certain procedures through documented, successful performance of those procedures for a specified period of time. Librarians will be credentialed in consumer health through documented completion of specific courses leading to core competencies. Computer professionals receive product certification from technology companies in areas such as systems engineering through attendance and competency demonstration at professional training classes. Health sciences librarians may soon be able to receive certification from partnership universities through distance-learning certificate programs.

Formalized training opportunities leading to a credential or certificate enhance competencies and provide vehicles for skill acquisition needed in new roles. However, to move health sciences librarians from their traditional roles into enhanced roles on the health care team requires a higher level of authority and accountability, a role recognized as essential by those on the health care team, and a role that will stand up to professional scrutiny similar to a licensure process for the health professions. Perhaps only then will the new health information professional achieve a level of recognition and compensation equal to other master's degree–prepared professionals in the health care arena. These areas will remain vitally important for the future, as MLA's members become more directly involved with the information needs of the health care team.

A TWENTY-FIRST CENTURY ASSOCIATION

As MLA enters its second century, its members have much to be proud of. In this time of upheaval in the health care environment, it cannot afford to rest on its laurels. As a voluntary association, MLA is its members, and it must be attuned to their needs. Chief among these is the role it can play in preparing members for twenty-first century practice as health information professionals.

At a global level, MLA works with other organizations to continually monitor and assess the environment and reengineer programs to meet members' needs. Areas of particular interest include defining new roles for health sciences librarians and offering timely and targeted skill development training to enable members to fill these roles. One such initiative is an invited symposium, sponsored by MLA at the National Library of Medicine in March 2002 that will examine the concept of the informationist as it relates to potential opportunities and changes in the profession and education for the profession. MLA's work in conjunction with other library organizations on the accreditation process for library school master's programs will help influence the direction education for the profession takes in the years ahead.

MLA always strives to identify areas of need for CE programs, looking specifically at new roles and the competencies required for those positions. MLA will soon be validating its historic and central role in the education of health sciences librarians by establishing a Center for Excellence in Health Information Education. The association also actively recruits members from tangential fields, recognizing that the boundaries of the profession are fluid, and collaborations will only strengthen the position of health sciences librarians and MLA in the future.

Lastly, MLA scrutinizes the recognition afforded to health sciences librarians and the profession in general by health care providers, research scientists, informaticians, and others with whom health sciences librarians share common interests and goals and participate as members of various patient-centered teams. Some of the initiatives growing out of this focus include funding a research study focused on the value of information and completion of a recent study comparing salaries of medical librarians to information technology professionals [8]. Perceptions of the profession are changing, and MLA is helping to promote this change.

The Medical Library Association is made up of ''Professionals Providing Quality Information for Improved Health.'' The future of the profession has a strong foundation on which to build. The interest in quality information has never been greater. The promise of improved health through access to quality information is now a recognized reality. The roles of health sciences librarians are changing, evolving, and enhancing the status of those who fill the roles. The profession can look forward to a bright future of fostering improved health because of the skills of its members in acquiring and applying appropriate information for decision making at the point of need and

educating their diverse clientele to become more effective information users. The future is now.

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